

## **3.23 Cumulative Impacts**

### **3.23.1 Regulatory Setting**

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the Proposed Project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

### **3.23.2 Methodology**

The potential for cumulative impacts was evaluated by considering the direct and indirect effects of the Proposed Project and other past, present, or reasonably foreseeable future actions in the area to establish whether, in the aggregate, they could result in cumulative environmental effects. The cumulative impacts analysis discussed in this section focuses on those issues and resources that would be affected by the aggregation of stress factors on the environment and does not address in detail those topics that would not have additional environmental effects from the cumulative condition. The analysis provided in this section considered the effects of the other cumulative projects and the Build Alternative in assessing whether a particular environmental parameter would experience cumulative adverse impacts.

The following eight-step process, based on Caltrans Guidance for Preparers of Cumulative Impact Analysis (February 3, 2012), was used as a guideline for identifying and assessing cumulative impacts:

- Identify the resources to consider in the cumulative effect analysis by gathering input from knowledgeable individuals and reliable information sources. This process was initiated during project scoping and continued throughout the CEQA/NEPA analysis.
- Define the Resource Study Areas (RSAs) for each resource to be addressed in the cumulative effect analysis.
- Describe the current health and historical context of each resource.
- Identify the direct and indirect effects of the Proposed Project that might contribute to a cumulative effect on the identified resources.
- Identify other current and reasonably foreseeable future actions or projects and their associated environmental effects to include in the cumulative effect analysis.
- Assess the potential cumulative effects.
- Report the results of the cumulative impact analysis.
- Assess the need for additional avoidance, minimization, mitigation and/or recommendations for actions by other agencies to address a cumulative effect.

### **3.23.3 Identification of Cumulative Projects**

The reasonably foreseeable projects considered in this analysis are presented in Table 3.1.3 and Figure 3.1.3 in Section 3.1, Land Use. Table 3.1.3 includes two commercial projects, four residential projects, one mixed-use project, one industrial project, and seven transportation facility projects. Most of the projects are infill projects, while the transportation projects are all along existing facilities.

Recent and future actions in the general vicinity of the Project Area of the SR-241/SR-91 Express Lanes Connector Project include:

- Planned transportation projects, including the SR-91 Corridor Improvement Project (CIP), the State Route 71 (SR-71)/SR-91 Interchange Improvement Project, and improvements to local arterials
- Express bus improvements throughout the counties of Orange and Riverside
- Rail improvements projects for Metrolink and Burlington-Northern Santa Fe (BNSF) Railway facilities
- Residential and nonresidential development in the cities of Orange and Yorba Linda

- School expansion in the City of Corona
- Public infrastructure projects, including extension of the Santa Ana River Parkway and improvements to the Santa Ana River and wildlife crossings

Not all of the projects listed in Table 3.1.3 would contribute to cumulative effects related to every environmental topical area. For example, not all of the projects would result in effects on biological resources. In addition, not all effects of an individual project listed in Table 3.1.3 would contribute to a cumulative effect. Some effects are very site-specific and would not contribute to cumulative effects associated with other projects. In other cases, short-term effects would not contribute to cumulative effects because construction of the cumulative projects and Build Alternatives, and the short-term effects of those construction activities would not occur in the same time period and/or in the vicinity of each other.

The identification and/or quantification of the potential effects of the individual projects and, as a result, potential cumulative effects, were not feasible for some effect topics. This is because either no environmental document has been prepared for those projects and, therefore, the potential effects of those projects are not known at this time, or the environmental documentation was not available at the time this cumulative impacts analysis was conducted. As a result, identification of potential effects of those projects would be speculative. Therefore, the cumulative impacts analyses include some qualitative judgments regarding the potential combined effects of the relationships among the projects in the RSA for each resource. In some cases, avoidance, minimization, and/or mitigation of possible effects of other projects could reasonably be anticipated, based on the assumption that those projects would include measures similar to the measures included in this environmental document conducted for compliance with CEQA.

Construction of the Build Alternative is scheduled to begin in 2017 and be completed in 2019. For the cumulative transportation projects listed in Table 3.1.3, construction of the SR-71/SR-91 interchange improvements could also be occurring during the beginning of that 2-year period.

### **3.23.4 Identification of the Resources Considered in the Cumulative Impact Analysis**

If a potential effect of the Build Alternatives related to a specific environmental topic is fully mitigated or offset, with no net effect, or if there are no effects related to that topic, then it was determined that there is no contribution to cumulative effects from the Proposed Project for that topic and it is not discussed further in this section. Those resources for which cumulative effects are not anticipated or for which the impacts were already analyzed in a

cumulative context are briefly discussed below. It should also be noted that cumulative impacts to the resources listed below were previously evaluated for the entire ETC, which included the express lanes connector, and were disclosed in the ETC Final EIR and Final EIS.

#### **3.23.4.1 Human Environment**

- **Land Use.** As discussed in Section 3.1, Land Use, the Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, the Build Alternative would require the permanent acquisition of approximately 5 acres (ac) of land from the Irvine Ranch National Natural Landmark (NNL)/Gypsum Canyon Nature Preserve. However, the removal of approximately 5 ac within the 40,000 ac Irvine NNL adjacent to existing Caltrans right-of-way is not considered a substantial impact to this property. Therefore, the Proposed Project would not result in cumulatively considerable adverse impacts related to land use.
- **Coastal Zone.** As discussed in Section 3.0, the Project Area is not in or in the immediate vicinity of a designated Coastal Zone. Therefore, the Proposed Project would not contribute to cumulative adverse effects to coastal zones.
- **Wild and Scenic Rivers.** As discussed in Section 3.0, the Project Area does not cross and is not in the vicinity of any designated National Wild and Scenic Rivers. Therefore, the Proposed Project would not contribute to cumulative adverse effects to wild and scenic rivers.
- **Parks and Recreational Facilities.** As discussed in Section 3.1, Land Use, the Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, the Build Alternative would require the permanent acquisition of approximately 5 ac of land from the Irvine Ranch NNL/Gypsum Canyon Nature Preserve. However, the removal of approximately 5 ac within the 40,000 ac Irvine NNL adjacent to existing Caltrans right-of-way is not considered a substantial impact to this property. No permanent impacts to other parks and recreational resources and properties including Section 4(f) or 6(f) properties would occur. Therefore, the Proposed Project would not result in cumulatively considerable adverse impacts related to parks and recreational facilities.
- **Growth.** As discussed in Section 3.2, Growth, the Build Alternative would improve the vehicle, person, and goods movement travel times on SR-241 and SR-91 to more effectively serve existing and future travel demand between and within the counties of Orange, Riverside, and San Bernardino. The Build Alternative is not expected to

influence the amount, timing, or location of growth in the area. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to growth.

- **Farmlands/Timberlands.** As discussed in Section 3.0, there are no farmlands or timberlands present in the Project Area. Therefore, the Proposed Project would not contribute to cumulative adverse effects to farmlands or timberlands.
- **Community Character and Cohesion.** As discussed in Section 3.3.1, Community Character and Cohesion, the Build Alternative would improve mobility and increase the efficiency of the existing circulation system without dividing or otherwise adversely affecting the character of adjacent communities. As a result, the Build Alternative would not contribute to cumulative adverse effects related to community character and cohesion.
- **Relocations and Real Property Acquisition.** The Build Alternative would not result in acquisition of property that would displace residents or businesses. As a result, the Build Alternative would not contribute to cumulative adverse effects related to relocations and real property acquisition.
- **Environmental Justice.** As discussed in Section 3.3.3, Environmental Justice, the Build Alternative would not cause disproportionately high or adverse effects on any minority or low-income populations. As a result, the Build Alternatives would not contribute to cumulative adverse effects related to environmental justice.
- **Utilities** During construction, two utility relocations are anticipated and three existing utilities would be protected in-place; no interruption in service is anticipated. Operation of the Build Alternative would not adversely affect utilities. The Build Alternative would not result in relocation of aerial or underground utility facilities across environmentally sensitive areas. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to utility facilities.
- **Emergency Services.** Temporary traffic impacts to emergency service providers would be minimized through implementation of a Traffic Management Plan (TMP). Operation of the Build Alternative would not adversely affect emergency services. Therefore, the Proposed Project would not contribute to cumulative adverse effects to emergency service providers.
- **Traffic and Transportation.** The Build Alternatives would improve traffic throughput and travel times, and reduce delays for travelers on SR-241 and SR-91 in the Project Area. The analysis of future traffic conditions in Section 3.5, Traffic and Transportation/ Pedestrian and Bicycle Facilities, for 2017 (Opening Year) and 2040 (Horizon Year) is a cumulative analysis in that it considers traffic generated by existing and future planned

land uses and the effect of future planned transportation improvements. As discussed in Chapter 1, the Proposed Project would actually open in 2019; however, the difference in traffic operations between the projected Opening Year of 2017 and the actual Opening Year of 2019 in the Study Area would be nominal in the peak hours due to over-saturated conditions that would remain on the general purpose lanes. Of the planned transportation projects listed in Table 3.1.3, construction of SR-71/SR-91 interchange improvements may occur concurrently with construction of the Build Alternative. However, the SR-71/SR-91 Interchange Improvement Project is only in proximity of the advance signage areas for the Build Alternative. The construction activities for these two projects, including any detours and closures, are far enough apart that they would not contribute to cumulatively considerable adverse traffic effects.

- **Pedestrian and Bicycle Facilities.** As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, pedestrians and bicyclists are not allowed to travel on the SR-241 or SR-91 mainline. The temporary detours and weekend or nighttime closures would not impact pedestrians and bicyclists or pedestrian and bicycle facilities. Therefore, the Proposed Project would not contribute to cumulative adverse effects to pedestrian or bicycle facilities.
- **Visual/Aesthetics.** Visual impacts related to views of the construction activities would be temporary and would cease after completion of construction. The proposed express lanes connector would be constructed of similar mass, profile, paving, and other construction materials to the existing general purpose lane connectors in the Project Area. The proposed wall features would be similar to those currently experienced on the site and in the Project Area. Graded slopes would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation. Because the features of the Build Alternative would result in similar encroaching features in the View Corridor as the existing freeways and their associated structures, the Proposed Project would not substantially degrade the existing visual character or quality of the project site and the surrounding area. Therefore, the Proposed Project would not contribute to cumulative adverse effects to visual resources.
- **Cultural Resources.** As discussed in Section 3.7, Cultural Resources, it was determined that no known archaeological resources or historic properties would be affected by the Build Alternative. Although considered unlikely, there is the potential to encounter unknown buried cultural materials or human remains in the disturbance limits during construction of the Build Alternative. Those potential effects would be avoided and/or minimized with implementation of Measures CR-1 and CR-2. As a result, the Build

Alternative would not contribute to cumulative adverse effects related to cultural resources.

#### 3.23.4.2 Physical Environment

- **Hydrology and Floodplain.** As discussed in Section 3.0, the Proposed Project would not encroach onto a floodplain. The Build Alternative includes new storm water drainage systems to accommodate storm water flows from the new facility. The Build Alternative also includes Best Management Practices (BMPs) (biofiltration swales and strips and media filters) to provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in impervious surface. With implementation of the BMPs, storm water flow concentrations associated with the Project Area would be similar to current conditions. Therefore, the Proposed Project would not contribute to cumulative adverse effects to hydrology and floodplains.
- **Water Quality and Storm Water Runoff.** The Build Alternative would comply with all applicable National Pollutant Discharge Elimination System (NPDES) regulations. Construction, Design Pollution Prevention, and Treatment BMPs would be implemented for the Build Alternative to address impacts to water quality. Treatment BMPs would include biofiltration swales and strips and media filters to target and remove pollutants of concern in storm water runoff. The proposed BMPs would treat approximately 135 percent of the net new impervious surface area (all of the impervious surfaces added to the Proposed Project would be treated, as well as an additional 35 percent of impervious surface from the existing transportation facility). Therefore, with compliance with NPDES regulations and implementation of BMPs, the Proposed Project would not contribute to cumulative adverse effects to water quality and storm water runoff.
- **Geology/Soils/Seismic/Topography.** As discussed in Section 3.9, Geology/Soils/Seismic/Topography, the potential impacts of the Build Alternative related to geologic conditions and soils would be avoided or minimized based on implementation of geotechnical design features. As a result, the Build Alternative would not contribute to cumulative adverse effects related to geology and soils.
- **Hazardous Waste/Materials.** As discussed in Section 3.11, Hazardous Waste/Materials, the potential impacts of the Build Alternative related to hazardous waste and materials would be avoided or minimized through implementation of Caltrans Standard Specifications and Measures HAZ-1 through HAZ-6. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to hazardous waste.
- **Air Quality (Operation).** The analysis of air quality provided in Section 3.12, Air Quality, is a cumulative analysis in that it considers the emissions of traffic generated by

existing and future planned land uses and the effects of other future planned transportation improvements. Temporary air quality impacts would be minimized through implementation of dust control and equipment management measures. The Proposed Project would not contribute to cumulative air quality effects because it would not violate any air quality standard, would not contribute substantially to an existing air quality violation, and would not expose sensitive receptors to substantial pollutant concentrations.

- **Noise.** The analysis of noise impacts provided in Section 3.13, Noise, is a cumulative analysis in that it considers the traffic noise generated by existing and future planned land uses and the effects of other future planned transportation improvements on the noise environment. The maximum noise level increase attributable to the Build Alternative would be barely perceptible to the human ear in an outdoor environment. Construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited exposure of sensitive receptors to construction noise. The noise analysis concluded that the construction noise would be short-term, intermittent, and overshadowed by local traffic noise. For these reasons, the Proposed Project would not contribute to cumulative adverse effects related to noise.
- **Climate Change.** The analysis of air quality provided in Section 4.3, Climate Change, is a cumulative analysis in that it considers the emissions of traffic generated by existing and future planned land uses and the effects of other future planned transportation improvements. As discussed in Section 4.3, the Build Alternative would increase the average vehicle speeds in the Project Area and decrease the average delay per vehicle. Therefore, the Build Alternative would not substantially alter the long-term greenhouse gas (GHG) emissions or contribute to cumulative impacts related to climate change.
- **Energy.** The energy consumed during construction and maintenance of the Build Alternative would represent a negligible fraction of regional energy consumption. In addition, the Build Alternative would result in an overall reduction in the vehicle hours traveled (VHT) and increase in system efficiency, which would result in less energy use compared to the No Build Alternative. Therefore, the Proposed Project would not result in a cumulatively considerable energy impact.

#### 3.23.4.3 Biological Environment

- **Wetlands and Other Waters.** The Build Alternative would not impact wetlands. The temporary and permanent impacts to jurisdictional waters would be minimal and would be minimized or mitigated through compliance with the measures required by the resource agencies during the permitting process. In addition, the current functions and



values of the impacted drainages features are quite low. Therefore, the Build Alternative would not contribute to cumulative adverse effects related to wetlands and other waters.

- **Plant Species.** As discussed in Section 3.17, Plant Species, the Build Alternative would result in impacts to Coulter's Matilija poppies and California black walnut. Coulter's Matilija poppies are somewhat numerous within and adjacent to the biological study area (BSA), and the project is not expected to contribute more than incrementally to the cumulative loss of this species and its potential habitat. California black walnuts are not numerous within and adjacent to the BSA; however, those few individuals that may be impacted by the Build Alternative are saplings situated within a median and the removal or relocation of these three saplings is not expected to substantially impact the long-term viability of this species. Therefore, the Build Alternative would not contribute to cumulative adverse effects to special-status plant species.
- **Animal Species.** As discussed in Section 3.18, Animal Species, the Build Alternative has the potential to impact golden eagles, bats, migratory birds, and special-status species inhabiting the natural communities Project Area. The Project Area is located within or adjacent to Caltrans right-of-way for an existing highway and lacks suitable nesting habitat for golden eagles. Although construction could temporarily impede access to potential bat roost sites in the crevices of the bridge and overhead structures, none of the potential roosting habitat is expected to be permanently altered by the Build Alternative. Impacts to migratory birds would be addressed through compliance with the Migratory Bird Treaty Act (MBTA). Although the Build Alternative would replace some of nonnative grassland and open space areas with impervious areas, this would occur within the median and perimeter of existing freeways. For these reasons, the Proposed Project would not contribute to cumulative adverse effects related to animal species. Impacts to coastal sage scrub special-status species are discussed below in Section 3.23.5 in conjunction with impacts to coastal sage scrub.
- **Invasive Species.** The Build Alternative would not substantially increase the potential for the spread of invasive species. Compliance with standard procedures would address this impact. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to invasive species.

The following environmental topics for which the Proposed Project may contribute to cumulative effects for the environmental topics listed below. The cumulative impacts of these topics are discussed further in Section 3.23.5, below.

#### **3.23.4.4 Physical Environment**

- Paleontology

#### **3.23.4.5 Biological Environment**

- Natural Communities
- Threatened and Endangered Species

### **3.23.5 Cumulative Impact Analysis**

#### **3.23.5.1 Paleontological Resources**

##### ***Resource Study Area***

The RSA for paleontological resources is the northwestern Peninsular Ranges Geomorphic Province of southern California (Province). This Province is bounded on the north by the Transverse Ranges, on the east by the Colorado Desert, and on the west by the Pacific Ocean, and extends south to include the entire Baja California Peninsula. This province is characterized by a series of mountain ranges separated by northwest-trending valleys subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to that of the Coast Ranges Geomorphic Province to the north, but the geology is more like that of the Sierra Nevada, with granitic rock intruding on older metamorphic rocks. The Province contains extensive pre-Cretaceous (more than 145 million years ago) igneous and metamorphic rocks covered by limited exposures of post-Cretaceous (less than 66 million years ago) sedimentary deposits. Many of the formations and rock types in the RSA are considered highly sensitive for paleontological resources.

##### ***Project Impacts***

The analysis of the potential impacts of the Build Alternative on paleontological resources is provided in Section 3.10, Paleontology. The Build Alternative is anticipated to disturb geologic units in the RSA that have high potential to contain significant, nonrenewable paleontological resources. The formations and units that exist within the RSA include: the Baker Canyon Member of the Ladd Formation, the Schulz Ranch member of the Williams Formation, the Silverado Formation, the Santiago Formation, the undifferentiated Sespe/Vaqueros Formation, the Topanga Formation, Very Old Alluvial Fan Deposits, Young Alluvial Fan Deposits, Young Axial Channel Deposits, Landslide Deposits, and Artificial Fill.

Artificial Fill has no potential to contain valuable paleontological resources because these deposits are the result of human activity. Late Holocene Landslide Deposits do not have the potential to contain paleontological resources because of their young age (less than 11,700 years). Young Alluvial Fan Deposits and Young Axial Channel Deposits have a low paleontological sensitivity. However, these two units are expected to overlie formations with

high sensitivity. Therefore, in areas where Young Alluvial Fan Deposits and Young Axial Channel Deposits are exposed at the surface, the sediments encountered at depths greater than 10 feet (ft) are considered to have a high paleontological sensitivity.

The Very Old Alluvial Fan Deposits, the Topanga Formation, undifferentiated Sespe/Vaqueros Formation, the Santiago Formation, the Silverado Formation, the Schultz Ranch Member of the Williams Formation, and the Baker Canyon Member of the Ladd Formation all have a high paleontological sensitivity and are expected to contain scientifically valuable paleontological resources. However, the Silverado Formation and the Baker Canyon Member of the Ladd Formation are less likely to be impacted because they are not located in an area of the RSA where excavation is expected.

Within the approximately 5 ac parcel in the NNL where ground disturbance will occur, four geologic units are present: the Santiago Formation, Very Old Alluvial Fan Deposits, Young Alluvial Fan Deposits, and Holocene Landslide Deposits. As stated above, the Santiago Formation and the Very Old Alluvial Fan Deposits have a high paleontological sensitivity and potentially contain paleontological remains.

Because of the presence of formations with high paleontological sensitivity, in areas where excavation for the Build Alternative would occur, construction activities have the potential to result in permanent impacts to paleontological resources. These potential permanent impacts would be reduced based on the development and implementation of a Paleontological Mitigation Plan (PMP) that follows the guidelines of the Society of Vertebrate Paleontologists (SVP) and Caltrans. The requirement for a PMP is specified in Measure PAL-1 in Section 3.10.4.

### ***Cumulative Impacts***

The cumulative projects would also be expected to result in permanent impacts to paleontological resources when excavation for those projects extends into fossiliferous formations. The quantity and severity of those impacts would be related to the amount (acres) of soil disturbed, the depth of excavation, and the resources, if any, encountered during construction. The cumulative projects would typically be required to comply with mitigation measures to address potential impacts to paleontological resources encountered during construction.

Each cumulative project is subject to the applicable requirements of federal and/or State environmental laws for protection of paleontological resources. Projects that would disturb sediments with high paleontological sensitivity should be required to implement mitigation measures to address the potential impacts to paleontological resources encountered during

construction. Caltrans has developed a set of guidelines similar to those of the SVP for preparation of a PMP to reduce impacts to paleontological resources. The cumulative projects subject to Caltrans oversight would be required to follow a PMP. For those cumulative projects that are not subject to Caltrans oversight, similar measures to those contained in the PMP should be implemented. As such, cumulative projects with the potential to impact paleontological resources should implement measures, such as preconstruction field surveys, full-time monitoring by a qualified paleontologist, and the recovery, identification, and appropriate storage of any paleontological resources found, to reduce potential impacts.

As stated previously, a PMP would be implemented during construction of the Build Alternative to avoid impacts to paleontological resources. The requirement for a PMP is included in Measure PAL-1 in Section 3.10.4. In the event that paleontological resources are encountered during excavation and grading for the Build Alternatives, implementation of a PMP would ensure that fossils would be able to be recovered. Therefore, the Build Alternative's contribution to cumulative paleontological impacts would not be considerable. No additional measures beyond Measure PAL-1 would be required to address cumulative impacts to paleontological resources.

#### **3.23.5.2 Biological Resources (Natural Communities and Threatened and Endangered Species)**

The analysis below of cumulative impacts to natural communities and threatened and endangered species is focused on impacts to coastal sage scrub habitat, coast live oak, and critical habitat for coastal California gnatcatcher. Braunton's milk-vetch and thread-leaved brodiaea are considered either unlikely to be present or absent from the BSA; therefore, it is unlikely that the Project would contribute to cumulative impacts to this species. Because the Project Area is located within or adjacent to State right-of-way for an existing highway and because of the lacks of suitable nesting habitat and limited foraging habitat for bald eagles, least Bell's vireo, and southwestern willow flycatcher, the Project is not expected to contribute to the cumulative impacts to these species. Therefore, cumulative impacts to these species are not discussed further.

#### ***Resource Study Area***

The Project Area for the Build Alternative is in the cities of Anaheim, Yorba Linda, and Corona and in unincorporated areas of the counties of Orange and Riverside. However, the portion of the Proposed Project within the County of Riverside is limited to advance signage areas. Because the physical improvements are limited to the portion of the Project Area in the

County of Orange, the RSA for biological resources was defined as northeastern Orange County.

As described in *The Jepson Manual* (Hickman, J.C., ed. 1993), the RSA is located in the South Coast subregion of the Southwestern California region of the California Floristic Province. That subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Historically, the natural vegetation communities in this subregion consisted primarily of chaparral, coastal sage scrub, annual grasslands, and some riparian scrub and woodland, along with the special-status plants and wildlife associated with these vegetation communities. However, much of the area has been modified from these natural plant communities as a result of agriculture and the development of urban and suburban uses.

Much of the area in the RSA for biological resources is within lands that are protected from development to preserve biological resources and natural habitat (e.g., Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan [NCCP/HCP]). Much of the remaining areas of natural vegetation in the RSA and the plant and wildlife species associated with that natural vegetation occur in lower quality, scattered, often fragmented patches on hills or in other areas not easily developed.

### ***Project Impacts***

As discussed in Section 3.15, Natural Communities, and shown in Table 3.15.2, the Build Alternative would temporarily impact 8 coast live oak and 15 sycamore trees and permanently impact 6 coast live oak trees in the area of the junction of SR-241 and SR-91. Modifications to the Project to mitigate effects to impacts to trees would include replacement of trees at approved ratios as part of a revegetation program.

Within the NCCP/HCP Plan Area, there would be permanent and temporary impacts to approximately 47.35 acres (ac) of potential coastal California gnatcatcher habitat known to support one pair of coastal California gnatcatcher. Approximately 9.14 ac of permanent and temporary impacts to designated coastal California gnatcatcher critical habitat would occur outside the NCCP/HCP Plan Area, 6.33 ac of which is developed. As discussed in Section 3.19 and illustrated in Table 3.19.1, direct temporary and permanent impacts to coastal California gnatcatcher occupied habitat and designated critical habitat would occur within and outside the NCCP/HCP Plan Area. Take of coastal California gnatcatcher in the NCCP/HCP Plan Area is expected to occur through the temporary loss of 11.85 ac (11.47 ac of coastal sage scrub and 0.38 ac of nonnative grassland) and the permanent loss of 2.98 ac (2.61 ac of coastal sage scrub and 0.37 ac of nonnative grassland) of occupied habitat in the

median of the existing SR-241/SR-91 interchange as shown in Table 3.19.2. In addition, the Build Alternative would result in 12.80 ac of temporary impacts and 19.72 ac of permanent impacts to designated critical habitat in the NCCP/HCP Plan Area, as well as 7.96 ac of temporary impacts and 1.18 ac of permanent impacts outside the NCCP/HCP Plan Area. The Build Alternative would also result in temporary impacts 0.23 ac of California gnatcatcher habitat outside the NCCP/HCP Plan Area.

As discussed in detail in Section 3.15, Natural Communities, mitigation for the segment of the Build Alternative in the NCCP/HCP Plan Area was conducted as part of the NCCP Implementation Agreement. Therefore, no further mitigation would be required for the permanent impacts to 19.72 ac of designated critical habitat within the NCCP/HCP Plan Area. Impacts to non-NCCP/HCP areas within Caltrans right-of-way will be covered through mitigation measures in the new Biological Opinion because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For impacts to coastal California gnatcatcher occupied habitat, designated critical habitat, and impacts to CSS beyond those that were included in the original Biological Opinion, the proposed minimum mitigation ratio is 2:1 for permanent impacts and 1:1 for temporary impacts as described in Measure TE-7 in Section 3.19.4. It is proposed that the Strawberry Farms mitigation area be used as mitigation for the Proposed Project.

Impacts to non-NCCP/HCP areas within Caltrans right-of-way would be addressed through formal Section 7 consultation because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. To offset coastal sage scrub impacts to coastal California gnatcatcher occupied habitat or designated critical habitat, the proposed minimum mitigation ratio is 1:1 for temporary impacts and 2:1 for permanent impacts as described in Mitigation Measure TE-7.

### ***Cumulative Impacts***

As described above, the Project would permanently impact 6 coast live oak trees in the area of the junction of SR-241 and SR-91. Although Caltrans provides for the protection and replacement of oak trees and the protection of oak habitats, oak trees take 60 to 80 years to mature. However, suitable habitat is expected to be available for wildlife within 20 years of planting. Despite the removal of individual mature oak trees within the junction of SR-241 and SR-91, it is unlikely that the removal would cause cumulative impacts to oak species or wildlife given the sparse nature of the oak habitat in this area.

The Build Alternative would result in the permanent and temporary removal of coastal sage scrub within the project disturbance limits and has the potential to result in adverse impacts on the plant and animal species associated within this natural community, including coastal California gnatcatcher. Some of the other cumulative projects that are in the same geographic areas may also result in the permanent and/or temporary removal of coastal sage scrub and have the potential to result in adverse impacts on the plant and animal species (e.g., coastal California gnatcatcher) associated with this natural community. Future development of these areas may increase traffic noise and additional nighttime light spill into preserved areas, as well as the degradation of coastal sage scrub habitat as a result of off-site development. Therefore, the cumulative projects have the potential to contribute incrementally to cumulative impacts on these natural communities in the RSA.

Each cumulative project would be required to include measures to mitigate for impacts to natural communities and threatened and endangered species, including impacts to coastal sage and coastal California gnatcatcher. In addition, other cumulative projects within the NCCP/HCP Plan Area would be required to consult with the wildlife resource agencies (USFWS and California Department of Fish and Wildlife [CDFW]) and comply with the measures in the NCCP/HCP to reduce impacts to habitats and species covered by the plan.

The NCCP/HCP approved in 1996 serves as a comprehensive, multijurisdictional habitat based conservation program pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA) of 1973 and the Natural Communities Conservation Planning Act of 1991. The NCCP/HCP focuses on the conservation of multiple species and their associated habitats while allowing for economic uses that meet social and economic needs in Central and Coastal Orange County. The NCCP/HCP authorizes the take of plant and wildlife species in the NCCP/HCP Plan Area by participating jurisdictions. Regulation of the take of threatened, endangered, and rare species is authorized by the wildlife resource agencies (USFWS and CDFW), which allow take authorization for otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated NCCP/HCP Reserve System.

The NCCP/HCP was conceived, developed, and is being implemented specifically to address direct, indirect, permanent, and temporary impacts on species and habitats (including coastal sage scrub and coastal California gnatcatcher) within central and coastal Orange County, resulting from the build out of planned land use and infrastructure, including the Build Alternative. The NCCP/HCP ensures that the cumulative impacts to those species identified are effectively mitigated by assembling the Reserve System. According to the NCCP/HCP Final EIR/EIS (County 1996b; pages 9–16), the Central/Coastal NCCP/HCP is directed

specifically to address reasonably foreseeable cumulative impacts of incidental take of coastal sage scrub habitat on the target/Identified Species and species dependent on or associated with coastal sage scrub and covered habitat at a very large subregional scale. Therefore, cumulative impacts are addressed at the subregional level as described in Chapters 5 through 8 of the NCCP/HCP Final EIR/EIS (County 1996b). Because the ETC is a project covered by the NCCP/HCP, the part of the Build Alternative within the NCCP/HCP Plan Area is not expected to contribute considerably to cumulative impacts to coastal sage scrub or coastal California gnatcatcher.

The Section 7 consultation will determine the mitigation measures for any California gnatcatcher use areas in the non-NCCP/HCP Plan Area, as well as mitigation measures for designated California gnatcatcher critical habitat since critical habitat was not part of the original Biological Opinion. Therefore, the part of the Build Alternative outside the NCCP Plan Area is not expected to contribute to the cumulative impacts to coastal sage scrub or coastal California gnatcatcher.

#### **3.23.6 Avoidance, Minimization, and/or Mitigation Measures**

Measures to avoid, minimize, or mitigate harm resulting from construction and operation of the Build Alternative are provided in Sections 3.1 through 3.20. Those measures address temporary direct and indirect effects during construction and permanent direct and indirect effects during operation of the Build Alternative. No measures beyond those identified in Sections 3.1 through 3.20 are required to address the potential contributions of the Build Alternative to cumulative adverse impacts.